JEWELRY BOX HINGE STRUCTURE

BACKGROUND OF THE INVENTION

In the field of containers, such as jewelry boxes, for holding and displaying merchandise, it is advantageous that the container be easily openable and closable, that it operate reliably and yet be inexpensive to produce. In addition, it is desirable that a producer be able to produce containers of various sizes capable of exhibiting a variety of appearances.

Jewelry boxes have been produced which comprise a body and a cover hinged together with a biasing device such as a tempered metal spring clip connected at the hinge to move the body and the cover together in a snap action, while allowing the box to remain open in a fully open position. For example, jewelry boxes have been made from cardboard comprising a body member and a cover member, a metal hinge secured to the members and a spring clip attached to the metal hinge to bias the members toward one another around the hinge. A felt or other decorative covering is used to hide the cardboard and present a pleasant appearance. Other jewelry boxes have been made with body and cover members of metal, with a separate, attached hinge, a spring clip and a decorative covering, as are used with the cardboard boxes. Still other jewelry boxes have been made from plastic body and cover members, each of which has small projections which engage and cooperate with the projections of the other member to define a hinge when the members are held together and biased closed by a spring clip or other biasing device secured to the members. The outer surfaces of the plastic members can be formed with a dull finish or a shiny finish, they can be embossed with a pattern to simulate leather or other material, or a flocking material like felt can be sprayed or otherwise applied to the members.

Each of the prior art boxes described above has a number of drawbacks. For some, a separate hinge must be attached, which adds to the cost of producing the box. In addition, for at least those boxes which provide a hinge defined by projections on the body and cover members, the body and cover members differ, thus requiring the manufacturing of two different types of members for each box produced. Therefore, two different dies or molds, each of which represents a major capital expenditure, are required to produce each size and style of box. Furthermore, the members of the prior art boxes are limited to a predetermined capacity, and so varying the capacity requires the production of entirely different members by still other dies or molds.

SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide a box made of body and cover members which include identical mating frames, thereby eliminating the need for dies, molds or other production equipment to produce two types of members rather than one.

It is a further object of the present invention to provide a box and method of producing it which permits great flexibility with respect to the size, color and surface finish of the body member and the cover member.

Toward the fulfillment of these and other objects, the box according to the present invention comprises a pair of identical frames, each frame having projections which are complementary to the projections of another identical frame when it is inverted and placed on the first frame, whereby the projections mate with one another to define an integral hinge. The frames are held together by a tempered metal spring clip which engages an anchoring lug defined on each frame adjacent to the projections to bias the frames together in pivotal snap action around the hinge. Each frame has an internal ledge which receives an outwardly directed peripheral flange of a tray-shaped shell to define each body member and cover member and further includes detents above the ledge for helping to retain the shell in place. The shells can be inexpensively thermoformed and their flanges bonded to the internal ledges of the frames by sonic welding or other suitable means. Shells having various depths can be received in a frame of a given size. In addition, the color and surface texture of the shell can be varied as desired and need not be the same as that of the shell in the mating frame.

The method of producing such a box eliminates the need for producing a cover member having a different configuration from its mating body member and the corresponding cost of two dies or molds to produce a box of just one size and style. It also eliminates the need for producing an entirely different member for each variance in member depth, color or surface texture.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of the box according to the present invention in its fully opened position;

FIG. **2** is an exploded perspective view of the lower frame of the box of FIG. **1** and a portion of the upper frame;

FIG. **3** is a cross section taken along the line **3—3** in FIG. **1**;

FIG. **4** is a plan view of the lower frame of FIG. **2**;

FIG. **5** is a cross section taken along the line **5—5** in FIG. **4**; and

FIG. **6** is a cross section taken along the line **6—6** in FIG. **4**.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

As is illustrated in FIG. **1**, a box generally designated by the reference numeral **10** and especially well suited for the storage and display of jewelry and other merchandise is shown in the fully opened position. The box includes a pair of identical frames **12** which can be made of injection molded plastic. Each frame **12** receives a shell **14** which can be made of a thermoformed material, such as plastic, the shell **14** being attached to the frame **12** by bonding, such as that resulting from sonic welding, to define the body member and the cover member of the box **10**. The shells **12** can be identical to one another, or one shell can be deeper than the other, or have a different color or surface texture. The frames **12** are held together by a spring clip **16** of tempered metal in a manner which will be described in connection with the other drawing figures.

The frames **12** may be of a wide variety of shapes, although the configuration illustrated is generally rectangular. As can clearly be seen from FIGS. **1**, **2** and **4**, frame **12** includes an internal ledge **18** around most of its inner periphery. Spaced slightly above the ledge **18** are a plurality of retaining lugs **20** for helping to retain the shells in a manner to be described hereinafter. One portion of the frame **12** includes a shoulder **22** spaced slightly below a rim **24** of the frame **12** toward which the ledge **18** faces and a pair of protrusions **26** extending